

REMARKS

Favorable reconsideration and allowance of the present application is respectfully requested.

Currently, claims 1-24 and 34-41, including independent claims 1, 16, and 34 remain pending in the present application. Independent claim 1, for instance, is directed to an insulation blanket for providing thermal and noise insulation in the cabin of an aircraft. The insulation blanket comprises an insulation layer containing an insulation material positioned adjacent to a barrier layer. The barrier layer contains a film positioned adjacent and laminated to a scrim made from generally flame-retardant, textured yarns.

In the Office Action, independent claims 1, 16, and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,054,710 to Botsolas in view of 3,991,549 to Heinrich, et al. Botsolas describes a flexible jacketed insulating blanket for covering and thermally insulating pipes and other equipment with surfaces that are flat or have simple curvature. (Col. 1, lines 58-61). The jacketed insulation blanket includes, *inter alia*, a vapor barrier film, an inorganic fiber insulation layer, and a reinforcing fiberglass scrim cloth. (Col. 2 lines 6-15). For example, as shown in Fig. 2, a mass type insulation 9 is bonded to the uncoated face of a vapor barrier layer comprising polyester film 11 and an aluminum coating 12. The coating 12 is bonded by an adhesive 13 to a layer 14 of asbestos paper in which is embedded a reinforcing layer 15 of open mesh fiberglass scrim cloth. (Col 2, lines 40-67).

Applicant respectfully submits, however, that Botsolas fails to disclose various limitations of independent claims 1, 16, and 34. For example, Botsolas fails to disclose

a scrim in which the yarns are generally flame retardant and textured, and thus multi-functional, i.e., they facilitate flame resistance, as well as noise and thermal insulation. Nevertheless, in the Office Action, Heinrich, et al. was also cited in combination with Botsolas in an attempt to achieve the limitations of independent claims 1, 16, and 34. Specifically, it was stated that one of ordinary skill in the art would have found it obvious to use the yarns of Heinrich, et al. in the scrim cloth 15 of Botsolas.

Even if combined in the manner suggested in the Office Action, however, Heinrich, et al. and Botsolas fail to disclose each limitation of independent claims 1, 16, and 34. Specifically, the vapor barrier 8 of Botsolas includes a scrim cloth 15 embedded with an asbestos paper layer 14, and the asbestos paper layer 14 is laminated to the polyester film 11. The asbestos paper layer 14 is formed from a slurry of individual asbestos fibers in water on a traveling wire screen similarly to papermaking operations. (Col. 4, ll. 59-63). The reinforcing cloth 15 is introduced at the proper interval in the process for a "mid-depth location" while the asbestos fibers settle on the screen. (Col. 4, ll. 63-66). The resulting asbestos layer is the "bulkiest layer" in the entire insulation jacket, which helps minimize telegraphing of the patten of the scrim cloth onto the jacket's outer surface. (Col. 5, ll. 6-15).

Thus, the scrim of Botsolas is only embedded within an asbestos layer. This is the case regardless of the configuration of the scrim (i.e., whether or not the yarns of Heinrich, et al. are used for the scrim). As shown in Fig. 2, it is this asbestos layer that is positioned adjacent and attached to a laminated to an aluminum coating 13 present on a polyester film 11. To the contrary, independent claims 1, 16, and 34 require a barrier layer in which the film is positioned adjacent and laminated to the scrim. Thus,

for at least this reason, Applicant respectfully submits that the present claims patentably define over Botsolas and Heinrich, et al., taken singularly or in any proper combination.

Moreover, Applicant also submits that one of ordinary skill in the art would not have found it obvious to combine the references in the manner suggested in the Office Action. The Office Action concedes that Botsolas fails to disclose a scrim in which the yarns are generally flame retardant and textured. However, it is stated that it would have been obvious to use the yarns of Heinrich, et al. in Botsolas. Specifically, the basis for combining Heinrich, et al. with Botsolas is as follows:

. . . Heinrich, et al. disclose[s] that false twist texturizing leads to a reduced flex abrasion resistance, and thus a good linear strength (col 2, ln 52-54). Therefore, a motivation to use Heinrich's texturized yarns in the scrim of Botsolas exists would be to create a scrim having good linear strength.

As an initial matter, the alleged "motivation to combine" is premised on a misinterpretation of Heinrich, et al. In particular, contrary to the assertion in the Office Action, Heinrich, et al. states only that "filaments having a reduced flex abrasion resistance and, nevertheless, a good linear strength . . . may be obtained from high polymers." (Col 2, ll. 52-58). Nowhere does Heinrich, et al. indicate that texturizing necessarily *leads to* a reduced flex abrasion resistance. Likewise, nowhere does Heinrich, et al. indicate that a reduced flex abrasion resistance necessarily *leads to* a good linear strength. Instead, Heinrich, et al. indicates that flex abrasion resistance relates to the resistance to folding and wearing. (Col 2, ll. 16-22). Consequently, reducing flex abrasion resistance would not necessarily result in a better linear strength.

Even assuming *arguendo* that Heinrich, et al. describes yarns with good linear strength and reduced flex resistance, there still would have been no motivation or

suggestion to substitute such yarns for the scrim of Botsolas. For example, Botsolas indicates that the scrim cloth 15 functions to reinforce the strength of the asbestos paper layer 14. In connection with this function, Botsolas states the following:

Without reinforcing fiber glass threads, the binder resin in the asbestos paper would burn or decompose with a resulting loss of binding properties, and the asbestos paper would tend to collapse or tear as a result of the asbestos fibers falling apart at temperatures at which the combined glass fiber and asbestos layer described herein would retain its configuration and substantial strength from its intact glass strands embedded in shielding asbestos that is held together mainly by those glass strands. (Col 8, lines 29-32)
(Emphasis added).

Thus, the reinforcing fiberglass threads of Botsolas (1) prevent the binder resin from burning or decomposing and (2) prevent the asbestos paper from tending to collapse or tear. Based at least in part on the importance of the fiberglass threads to the jacket construction of Botsolas, there would simply have been no motivation for one of ordinary skill in the art to remove these threads, and substitute them with the yarns of Heinrich, et al.

Applicant also notes that independent claims 16 and 34 require an insulation layer sandwiched between a first barrier layer and a second barrier layer, wherein each barrier layer contains a film attached to a scrim. Botsolas fails to disclose the teaching that there further comprises a second barrier layer adjacent to the insulation layer. Nonetheless, it was stated in the Office Action that such a layered construction would have been obvious because the "mere duplication of the essential working parts of a device only involves routine skill." However, Botsolas indicates that the insulation material (i.e., strips 9) is placed in "direct contact" with pipe or other equipment surfaces to be covered with the composite jacketed insulation. (Col 7, lines 31-35). Based on

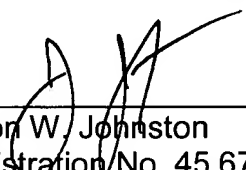
such teachings, there is simply no indication that one of ordinary skill in the art would be motivated to sandwich the insulation layer between two barrier layers so that the insulation layer no longer directly contacts the surface to be covered. Thus, for at least the reasons set forth above, Applicant respectfully submits that independent claims 1, 16, and 34 patentably define over the references cited, taken singularly or in any proper combination.

Thus, for at least the reasons set forth above, Applicant respectfully submits that the present claims patentably define over the prior art of record. It is believed that the present application is in complete condition for allowance and favorable action, therefore is requested. Examiner Ruddock is invited and encouraged to telephone the undersigned, however, should any issues remain after consideration of this response.

Please charge any additional fees required by this Response to Deposit Account No. 04-1403.

Respectfully requested,

DORITY & MANNING, P.A.



Jason W. Johnston
Registration No. 45,675

DORITY & MANNING, P.A.
P. O. Box 1449
Greenville, SC 29602-1449
Phone: (864) 271-1592
Facsimile: (864) 233-7342

Date: 12/23/03